

EAS JOURNAL

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EASTERN APICULTURAL SOCIETY OF NORTH
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???????????

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THREE MASTER BEEKEEPERS CERTIFIED AT THE DELAWARE CONFERENCE

Clarence H. Collison
Entomologist
The Pennsylvania State
University
University Park, PA 16802

Testing for the EAS Master Beekeeper Certification Program is held once each year during the annual EAS Conference. During the past conference at the University of Delaware, three beekeepers successfully completed all three phases of the certification program. Passing all three exams were Wade B. Lawrence, Thomas L. McCormack and Clifford F. Wright-Sunflower.

Wade Lawrence is a hobbyist beekeeper and veterinarian from Frederick, Maryland. Wade started keeping bees when he was 13 years old and currently has six colonies. He has also had limited experience with *Apis cerana* while spending two years in the Philippines with the military.

Thomas McCormack is from Aliquippa, Pennsylvania and manages from 50 to 75 colonies of bees. He started with bees nine years ago and specializes in the production and retailing

of pollen and honey. In addition, he rents bees for pollination, collects honey bee swarms and exterminates yellow jacket nests throughout southwestern Pennsylvania.

Cliff Sunflower is a commercial beekeeper from Bath, Pennsylvania. He currently operates 350 colonies for honey, wax, pollen, propolis and royal jelly production. Cliff also specializes in the teaching of beekeeping and related activities to others. For example, Cliff has developed an educational program entitled "Dancin With The Bees" which he presented last year to over 10,000 school children in the northeast.

The purpose of the Master Beekeeper Certification program is to identify and certify individuals who have detailed knowledge of honey bee biology, have expertise in the proper practices of beekeeping, and can present this information to the beekeeping and non-beekeeping public in a detailed, accurate, clear and authoritative manner. The Master Beekeeper Program was originally developed in 1976 at Cornell University under the direction of Dr. Roger A. Morse. The Eastern Apicultural Society of North America (EAS) expanded and assumed the responsibilities of the program in 1979. Currently there are 51 certified "Master Beekeepers" in the United States and Canada.

The certification program includes a
See MASTER, PAGE 3

Greetings from Virginia!

Frank Fulgham
EAS President - Virginia '87

Now that the Holiday Season is past, it is time to look ahead to 1987 and mark the dates of August 3-8 NOW. Plan your vacations around those dates and you will be ready for your trip to Virginia. Why Virginia? Because that is where the 1987 Annual Conference and Show of the Eastern Apicultural Society will be held.

This year's EAS conference will prove to be an extravaganza of learning, fun and fellowship. Plans are to follow a schedule similar to the past and feature a package of special events you will not want to miss.

Blacksburg Virginia is the conference site which is nestled in one of the most beautiful sections of the southwest Virginia mountains. Many of you will want to plan side trips for the family before or after the conference to view one or many of our historical sections of Virginia. You can choose whatever interests you - from the ocean at Virginia Beach to the mountain ridges with the Skyline Drive and Blue Ridge Parkway. Colonial history comes alive in places like Williamsburg Charlottesville and Alexandria where George

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MASTER BEEKEEPER from 1

ries of three tests: 1) a written examination on all aspects of beekeeping; 2) a laboratory practical examination on recognition of bee diseases, equipment, and proper practices; and 3) an apiary performance test on the proper explanation of beekeeping practices and on the handling of bee colonies.

Any experienced beekeeper is eligible to apply for certification as a Master Beekeeper. Persons interested in applying should have a minimum of 5 years of experience as a serious beekeeper in some aspect of apiary management such as a dedicated hobbyist, a commercial beekeeper, working for a commercial beekeeper, or apiary inspection. Also, it is recommended that applicants have completed the equivalent of a college level course in beekeeping. An applicant should be well read in the apicultural literature.

Persons wishing to apply for certification should send a letter to either the Secretary of EAS, Mrs. Loretta Surprenant, The William H. Miner Agricultural Research Institute, Chazy, NY 12921, or Clarence Collison, 106 Patterson Building, University Park, PA 16802. Completed applications and requests for exam retakes must be received by July 1, 1987.

Individuals who do not pass all three exams the first time they take them, may retake the exams they failed in subsequent years. Exams that were passed will not have to be repeated.

Applicants who are accepted as candidates for certification will be charged \$20 when they take the written exam or \$10 for each retake and \$20 upon successfully passing all three exams.

Upon successfully completing the certification program, the individual receives a certificate suitable for framing, a Master Beekeeper lapel pin, and a Teaching Syllabus and Resource Manual.

**Completed
MASTER BEEKEEPER
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requests for
exam retakes must
be received by
July 1, 1987.**

EAS-87, from page 1

Washington and Thomas Jefferson lived and worked. The Civil War still leaves its scars on the land in Manassas, Petersburg and Appomattox.

If anyone is serious about finding out what Virginia has to offer, write the Virginia Division of Tourism, Visitor Information, 101 North Ninth Street, Bell Tower, Richmond, VA 23219.

Virginians are proud of their heritage and state, and we want to share this with you at EAS. We have decided to use the phrase "We Have It Made In Virginia" as the theme for this year's conference. As you may suspect, this motto has a double meaning. Not only does it represent our pride in the State, but is also draws on the many local products and foods for

which Virginia is famous. We hope to tie this in with the honey industry to promote local honey rather than honey which has been imported.

EAS-87 will offer participants many choices. Dr. Rick Fell, Apiculturist at VPI and SU, or Virginia Tech as it is more commonly called, is Program Chairman and is

busy lining up a speakers who will be both educational and fun. We hope to offer something for everyone from beginning beekeepers to advanced apiculturists.

The EAS Short Course will be held on August 3-4 and will offer intensive classroom and field training in beekeeping. This year a pool party at the Shawnee Swim Club is being planned for the participants in the short course.

The EAS Conference and Show will begin on Wednesday, August 5 and run until noon Saturday, August 8. Highlights of EAS-87 will include a Champagne Dinner Reception to be held Wednesday evening to welcome everyone. This will feature wines and champagne, both hot and cold hors d'oeuvres, and a standing steamship round of beef.

On Thursday evening, be prepared to sample Virginia foods at a Virginia Bluegrass picnic. You will find foods such as crabmeat, fish, shrimp, ham, beef barbeque, fresh vegetables, and of course Virginia apples. This will also feature a bluegrass band for dancing and entertainment.

The Annual EAS Banquet will be on Friday evening and will also feature local foods such as chicken, potatoes, green beans and peanuts. Have you ever tasted traditional Virginia peanut soup? It was a popular dish with the Colonial Williamsburg residents of the 1700's.

All of this will be available to the conferees to enjoy on the campus of Virginia Tech. In addition, you will have alternate dining choices at the campus Dining Hall, the Dining Room at the

If you have attended past conferences, add this to your list. If you have never attended a conference, now is the time to start. We anticipate a record-setting attendance, so when you receive your registration information later this year, RETURN IT IMMEDIATELY. First-registered first-served! Again, don't wait! Reserve the dates of August 3-8, 1987, on your calendar. Pass the word to other beekeepers in your neighborhood. Together, we can make this year's conference the best ever!

Donaldson Brown Conference Center, or nearby restaurants. Lodging accommodations will be available in dorm rooms at a very modest rate. In addition, those desiring air-conditioned rooms may be house in the Conference Center Houseing or the Holiday Inn or Sheraton Red Lion In located at the edge of campus.

I hope this brief overview of our plans is enough to entice you to decide that this year's EAS Conference and Show in Virginia is one that must not be missed. □



Stings!

The first report of an allergic reaction occurs in hieroglyphics on the wall of King Menes' tomb in Egypt. They describe the king's death from a wasp sting in 2621 B.C.

REACTIONS TO BEE AND WASP STINGS

Scott Camazine, M.D.
Office of Apiculture
Cornell University - Ithaca, New York

Aside from everyone's initial sensation of pain, reactions to wasp and bee stings are extremely variable, depending, in part, on the species of stinging insect, the number of stings received, and factors relating to the victim. Many aspects of man's physiological reactions to stings have been well studied but other details are still poorly understood. This article briefly reviews the subject of bee and wasp stings, man's reactions to them, their pathology, physiology and treatment.

Types of Reactions to Bee and Wasp Stings

Most beekeepers pay little attention to the many stings they receive during their work. The typical initial reaction is brief sharp pain, a whitened wheal with a central red spot, an area of surrounding redness, and warmth. In loose tissue, such as the eyelids, there may be considerable swelling. All these symptoms generally subside in minutes to hours. Itching may persist at the site for several days. This typical reaction occurs in the vast majority of people stung, and is called a **local reaction**.

Such individuals are not allergic to stings.

Next in severity are the **large local reactions**. Here again, the symptoms involve only the area immediately surrounding the sting. There is more extensive swelling and redness, but the signs are confined to the site of the sting. These reactions may develop slowly, reaching a peak in 24 to 48 hours, then resolve spontaneously over several days. At times the reaction may be so large as to immobilize an entire limb. There is question whether these reactions are allergic in origin or whether they are merely an exaggerated normal (i.e., nonimmune) response to the venom. (Evans 1981, Schmidt, 1986 and references therein). This distinction becomes important with regard to desensitization therapy.

In contrast to local reactions, **systemic reactions** involve portions of the body and organs distant from the sting site. They are also called anaphylactic reactions, have an allergic origin, and can be serious and occasionally life-threatening. System reactions include generalized urticaria (hives), throat tightness, wheezing, difficulty breathing, dizziness, drop in blood pressure, and loss of consciousness. In the extreme reaction, called **anaphylactic shock**, a

precipitous loss of blood pressure can be rapidly fatal.

The literature contains many descriptions of more severe, and sometimes lethal anaphylactic reactions. The first report of such an allergic reaction occurs in hieroglyphics on the wall of King Menes' tomb in Egypt (Evans, 1981). They describe the king's death from a wasp sting in 2621 B.C. Anaphylactic reactions take a number of forms. The most common manifestations are cutaneous: redness, itching, and hives, often of the eyes, lips or tongue. In adults, cutaneous symptoms are usually accompanied by other manifestations. The most dangerous are respiratory failure and shock. **Upper airway obstruction** results from edema (swelling) of the larynx or epiglottis. Death from suffocation can occur rapidly. **Diffuse lower airway bronchoconstriction** is similar to a severe asthmatic shock, and is also potentially fatal. The most dramatic and severe manifestation of anaphylaxis is hypotensive shock, which may suddenly develop without any other symptom, and rapidly leads to death from the precipitous drop in blood pressure.

These are the type of reactions we see in the United States today. When the Africanized bees reach the southern United States within the next decade, we will

begin to see toxic reactions caused by massive stinging. It has been estimated that a minimum of 800 Africanized bee stings would be required to kill a 75 kg (165 lb) non-allergic person (Africanized Bee News 1985). The venom of an Africanized bee is no more toxic than that of a European bee, and the amount of venom delivered per sting is less than that for an European bee (Africanized Bee News, 1985). The problem with Africanized bees is their fierce aggressiveness, their quick response, and their willingness to pursue their aggressors for up to 1/2 mile. As a result, we can expect some incidents of mass stinging.

The medical literature contains a few reports of the effects of massive stinging in patients who each received over 1000 stings (Mejia et al. 1986). In one study of 5 victims, 4 survived. The fatal stinging involved an elderly man (74 years old). These patients had symptoms quite different from the allergic reactions described above. The most significant development was kidney failure that persisted for up to 2 months. The surviving patients were hospitalized for about a month. It is believed that these cases involved a direct toxic effect of the venom rather than an allergic reaction. The venom caused breakdown of muscle and red blood cells, and a drop in blood pressure, all of which contribute to kidney failure.

It is impossible to predict what type of symptom victims will develop, harmless local reactions, or serious anaphylactic shock. Nor is it known why some individuals become less sensitive with subsequent stings, while others develop potentially fatal anaphylactic reactions.

A gap of several years without stings followed by a period of several stings or more during a year may predispose individuals to anaphylaxis (Evans 1981). Some individuals may develop increasingly serious anaphylactic symptoms with repeated stings. However, many patients manifest the same symptoms with every sting, whether it be a local reaction or more generalized urticaria. Skin tests, in which dilute venom is injected into the skin, are currently the best way to diagnose allergies to insect stings. Patients with a history of a large local reaction on initial sting, and a more

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severe systemic reaction to a subsequent sting, generally (70%) have positive skin tests to venom (Evans 1981). However, 40% of individuals with a positive skin tests will not have systemic reaction to their next sting (Valentine and Golden, 1981). Children are less likely to have systemic reactions to venom.

TABLE 1 - Types of reactions to bee and wasp stings.

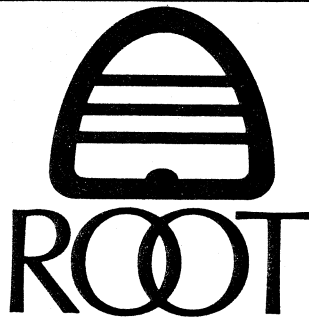
1. Local reactions
2. Large local reactions
3. Systemic reactions (anaphylactic reactions)
 - Cutaneous reactions
 - Respiratory reactions
 - Cardiovascular reactions (anaphylactic shock)
4. Toxic reactions

TABLE 2 - Systemic symptoms (in approximate order of frequency).

1. Hives/swelling
2. Itching
3. Shortness of breath/wheezing
4. Throat tightness/hoarseness
5. Dizziness/fainting
6. Loss of consciousness
7. Nausea/vomiting/diarrhea
8. Headache
9. Apprehension/fear
10. Weakness
11. Confusion
12. Incontinence
13. Serum sickness
14. Vasculitis
15. Nephrosis
16. Encephalopathy

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CHALKBROOD

THE COMB CONNECTION

Elbert R. Jaycox
Entomology and Plant Pathology
New Mexico State University

There was good evidence that old brood comb contributes to the development of chalkbrood, perhaps by serving as a reservoir for the causal fungus, or even stimulating fungal growth.

Chalkbrood is one of the two fungus diseases affecting the developing brood of honey bees. It is caused by an organism called *Ascosphaera apis*, which kills the larvae and makes fungus-covered mummies of them. The other fungus disease, stonebrood, is caused by a common fungus, but is rarely seen in colonies of bees.

Chalkbrood was not reported as present in the United States until 1965, yet apiary inspectors and beekeepers have claimed that it was seen in the 1920's and 1930's. But in the last 20 years, chalkbrood has spread throughout the U.S. and Canada, and in many cases has caused losses of brood and honey production. At the recent meeting of beekeepers in California, a beekeeper who migrates between California and the Dakotas told me he believes he lost about one-third of his crop to chalkbrood last year.

In [the New Mexico State University] apiary we have had one or two cases of chalkbrood each season, but no serious outbreaks. It is a good thing, because there are no approved, effective treatments for this disease although many materials have been tested.

For several years, I have been collecting ideas and information which show that old, black comb are detrimental to colonies of bees and that American beekeepers should be more concerned about replacing them rather than bragging about how good they are after 30 or 40 years of use. The first report relating chalkbrood to old comb was that of Nelson and Gochnauer in 1982. They found less chalkbrood infection in new than old combs, and suggested that more use of foundation might help to control the disease. Old combs may actually stimulate the growth of the chalkbrood fungus, according to Nelson and Gochnauer.

A new study of chalkbrood disease in relation to comb age was reported at the 1984 meeting of the Entomological Society of America by J.P. Koenig, G.M. Boush, and E.H. Erickson, Jr. Their research will be found in the *Journal of Apicultural Research*. The study compared the incidence of chalkbrood infection among groups of ten package colonies established on each of five different types of comb: 1] New comb from foundation, 2] Super comb never

used for brood, 3] Brood comb 5 to 30 years old, 4] Brood comb 30 to 45 years old, and 5] Old brood comb of mixed ages newly fumigated with ethylene oxide. The work was done at the University of Wisconsin, Madison.

The colonies were fed fumagillin and treated once with Terramycin, but none was fed pollen or pollen supplement. Brood counts were made regularly and each colony was carefully monitored for chalkbrood disease inside and out. Levels of disease ranged from negligible to over 6 percent, with the lowest infection in colonies on new combs and super combs, intermediate infections on fumigated comb, and highest in the old brood combs. There was good evidence that old brood comb contributes to the development of chalkbrood, perhaps by serving as a reservoir for the causal fungus, or even stimulating fungal growth as suggested earlier by Nelson and Gochnauer. Although the study did not measure the effect of chalkbrood on honey production, the authors note that loss of one to two thousand individuals at an infection level of 4 to 6 percent could have an effect on the productivity of a colony.

If my bees suffered seriously from chalkbrood [in the previous season], I would surely plan to do something about it this spring. The best treatment, in the absence of any approved medication, would be to pull 3 to 5 of the oldest combs and have the wax made into additional foundation. If you are unable to change large numbers of colonies, do half the colonies in an apiary and plan to monitor chalkbrood infection and to replace more old combs the following season. Keep an eye also on other differences between the two groups of colonies -- you may see better wintering, stronger colonies, and improved honey production in colonies with newer combs.

My thanks to John P. Koenig for sharing the results of his chalkbrood study.

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Vol 3, No. 1, March 1986.

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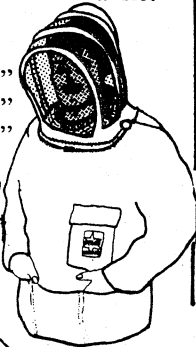
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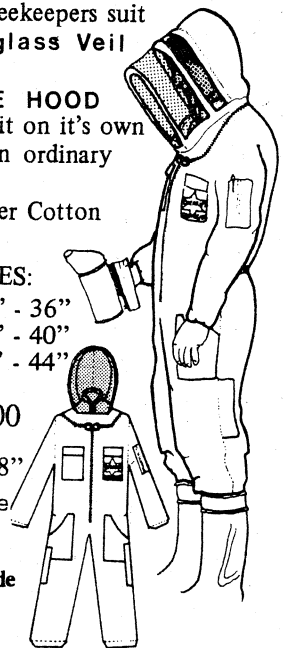
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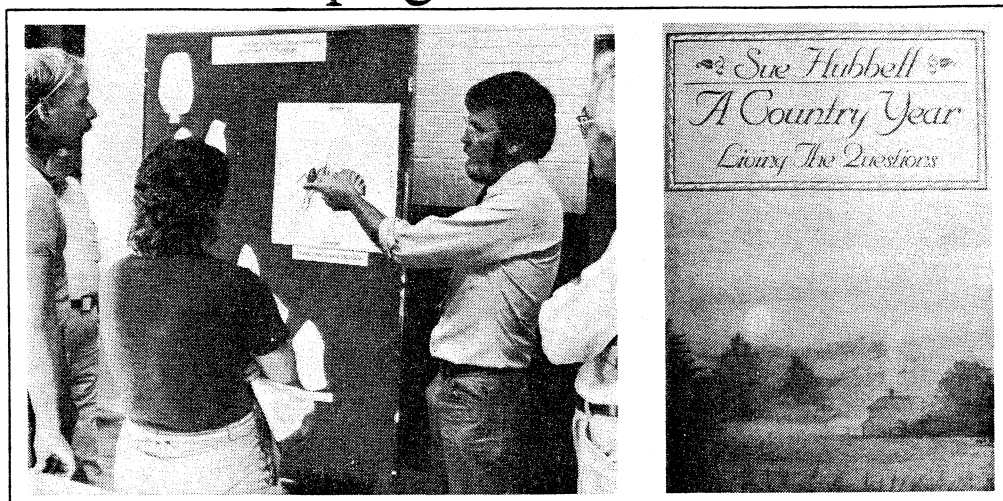
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Fresno, CA; Durham, CA

THE EAS SHORT COURSE

by Larry Connor, Coordinator

The EAS short course is probably one of the most outstanding learning experiences offered in North America for the every-day beekeeper. Every August, just before the annual EAS conference, 50 to 100 beekeepers, their wives, husbands, sons, daughters, and parents, assemble for a 2 or 3 day intensive learning experience.

For a reasonable fee (\$55 in 1986), beekeepers participate in lectures and hive-side demonstrations from 8 am to after 9 pm. It's total emersion and physically tiring. But the program has a light touch. Over the years a range of speakers have presented well-prepared lectures with humor and enthusiasm. Humorous speakers like Al Avitabile and Jim Tew; the dry wit of Karl Showler and Bob Berthold; and the give-and-take among Clarence Collision, Dewey Caron, Lannie Odlum, and I, have kept the Short Course alive and fresh.

Reorganized in 1980 by Dr. Dewey Caron (EAS offered other short courses earlier in its 32-year history), when EAS met in Vermont, the short course has been a reflection of the changes in beekeeping

itself. In the early 1980's the course was for the beginner and the inexperienced hobbyist who needed careful tutoring in classroom and field activities. The course has gradually evolved. Last year, when the program was offered in Delaware, it was advertised as an 'intermediate'-level course. While beginners are still welcomed, and learn a great deal in the program, the focus is for the beekeeper who wants to learn more.

And learn they do. In the 1986 program, one entire day was spent on honey, from factors affecting nectar secretion to honey processing and marketing. There was even a final presentation on mead to complete the cycle. In 1985, a one-day program emphasized queen rearing and breeding, with Steve Tabor, Lannie Odlum and I offering a very special program for those who elected it.

And for the past few years the short course has offered programs in diseases and pests and cutting bees for honey bee tracheal mites. Not beginner stuff.

It is not surprising to find that the participants are beekeepers who have kept bees for 5, 10 and even 20 years. Sideline and commercial operators participate too, benefiting from the program discussion as much as any hobbyist. This, of course,

has been part of the EAS success - mixing beekeepers in a fun-filled, yet educational environment every year.

There are short-course groupies, beekeepers who have attended several years, and plan to come back again and again. They plan their vacation time, get permission from spouses (or bring them along), and have a great time every year. They keep the instructors honest by reminding them of statements made in years past, and keeping the humor and lightness of the course alive.

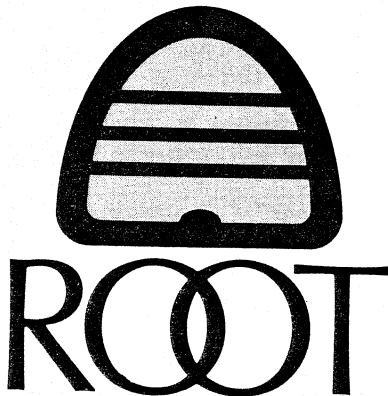
It's a learning experience for instructors. The questions come morning, noon, and night: at the cafeteria, in the dormitory showers, after hours, and for the rest of the EAS conference.

Every year the participants evaluate the just-completed course, and this lets the program chair and short course coordinator plan for the next year. The local arrangements play an important role in what physical shape the course will take.

Since I became the EAS short course coordinator in 1982, when we met in West Virginia, I have learned to respect the dynamics of the course, the participants, the instructors, the evaluations, and the input of the host state committees in putting the next course together. I have,

SEE SHORT COURSE, p. 14

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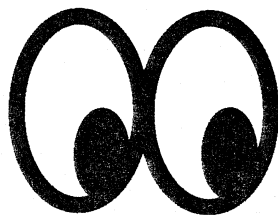
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HISTORY OF BEEKEEPING IN TENNESSEE

from notes provided by
Stephen H. Dilley
3634 Valley Vista Road
Nashville, TN 37205

The history of beekeeping in Tennessee extends back at least into the eighteenth century, but very few historical records are available. The first state-wide beekeeping organization in Tennessee was formed in 1905 and was called the Tennessee Honey League. This organization later evolved into the present Tennessee State Beekeepers Association. J.M. Buchanon of Franklin was instrumental in organizing the Tennessee Honey League and served as a bee inspector for the association. In 1911 a state law was enacted to provide for a state inspector for apiaries, and in 1912 Dr. J.S. Ward was appointed the first Inspector of Apiaries in Tennessee. At the time of his appointment Dr. Ward estimated the number of honey bee colonies in Tennessee to be 300,000. Three years later the number was estimated to be 227,000; the decline was attributed to a severe outbreak of diseases. The apiary inspection service was placed under the Extension Service of the University of Tennessee in Knoxville and remained there until 1942 with G.M. Bentley, State Entomologist, in charge.

George Rhea came to Tennessee from Pennsylvania in 1942. He helped revise the bee laws and move the responsibility for apiary inspection to the Tennessee Department of Agriculture in Nashville. In 1945 John M. Amos was appointed as the first State Apiarist, and he served until his resignation in 1949. Mr. Leslie Little was appointed State Apiarist on August 1, 1949, and he served until his retirement in 1972. Mr. Sam Neeley succeeded Mr. Little in 1972 and served until August 1979.

The early apiary inspectors were not involved in inspecting large numbers of colonies for diseases, but concentrated more on lectures and promotional activities. In 1939 the first bee inspector was hired for field inspections. After Mr. Little became State Apiarist three full-

time and three part-time bee inspectors were hired in 1950. In 1956 the laws were modified so the Department of Agriculture could also enter into matching funds agreements with individual counties for a bee inspector to serve the county in which he lives. There are presently six counties with local bee inspectors.

Mr. John Amos started publishing Tennessee Apiculture in January of 1947 as an educational newsletter. It was published at State expense and

mailed, on request, to all registered beekeepers. Publication was continued by Mr. Little until May 1971 when Tennessee Apiculture was to be consolidated with Tennessee Market Bulletin to increase exposure. Unfortunately, the consolidation was not realized and Tennessee Apiculture was discontinued by the state in 1971. The University of Tennessee initiated a bee program on January 5, 1972, as part of the Agricultural Extension Service. In February, 1973, the U.T. Extension Service began publishing a
Continued page 13

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TENNESSEE

Continued

quarterly educational bulletin for beekeepers called the Tennessee Bee Line. This bulletin was mailed to 8000 registered beekeepers in the state. However the Bee Line was discontinued in December 1975 because of the large postal costs. As a result of this action, the Tennessee State Beekeepers Association voted in January, 1976 to begin pub-

lishing at association expense a monthly newsletter for the members of the TSBA. The title selected for the publication was Tennessee Apiculture, and the publication costs represent one of the major expenses paid by membership dues.

From a peak of 1,300 TSBA members, the organization now has 735 paid members in 1986. There are 440 registered beekeepers in Nashville alone, of which 73 are association members.

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Editor's Notebook

Dear Readers:

This issue features articles which should be of interest to many of you. Dr. Scott Camazine, an emergency-room MD with a strong interest in bees, has prepared a summary of sting reactions. Dr. Elbert Jaycox writes about the possible link between old brood combs and chalk brood. There are articles about EAS activities from President Frank Fulgham, Master Beekeeper Coordinator Clarence Collison, and a few words from me about the short course.

Have you made plans to attend the EAS-87 in Virginia? It certainly is shaping up into an exciting conference - we will bring more information in the Spring and Summer editions.

We have added the support of many advertisers in this issue. Show them your support whenever you can, and mention the *EAS Journal* when you do.

Thanks. Larry Connor, Editor

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*Journal of Apicultural Research 23:209-12, 1984

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however, developed a few opinions about the success of the Short Course: First, it meets beekeepers' needs -- The course has addressed a changing need and has done a fairly good job of filling that need. We attract beekeepers because we offer instruction which is unavailable elsewhere. Looking ahead to Virginia in 1987 and Massachusetts in 1988, we are moving into states with very active educational programs for beekeepers, where beekeepers in the area are seeking advanced topics for discussion.

Second, the price is right -- If you compare the cost of 2 or 3 days of professional instruction in the business, computer, education, or medical areas, you would expect to pay hundreds of dollars per day of instruction. EAS has seen fit to subsidize the program over the years I have been involved, and if the program does not make a profit, the difference is taken out of the society budget.

Third, the course is interactive -- Put a group of 60 beekeepers

together with the instructors, and by the end of the first day there is a tremendous group dynamic, a chemistry, which takes over. There is extensive discussion at all hours, and participants meet with each other to discuss issues. Friendships have developed from the courses. And the instructors learn from their students.

Fourth, the course has become an unofficial review for the Master Beekeeper candidates. We are not been assigned the task of teaching for the Master Beekeeper examination process. But it often serves as an excellent review for the participants. These are highly motivated individuals who have spent months reviewing their beekeeping knowledge and are ready to ask questions.

WHAT'S AHEAD FOR 1987? -- Dr. Rick Fell and I are working together this year. In addition to ourselves, Drs. Jim Tew, Clarence Collison, Anita Collins, and Pickard (Cardiff, UK) and Mr. Steve Taber have been invited to participate. Look for more details in the Spring *EAS Journal*.

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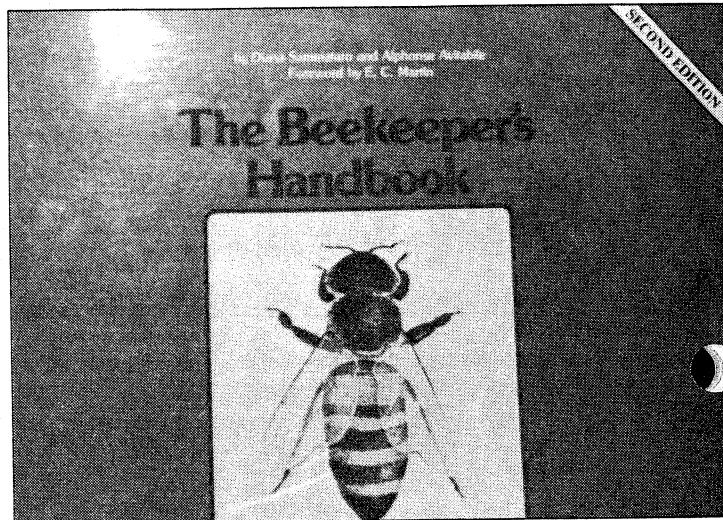


Photo by Ellis Schweitzer

Dr. Mike Burgett (pointing) explains tracheal mite research done at Oregon State University, during one of several poster display presentations in the convention lobby in Delaware. This was an innovation in 1986.

Results from 1986 Delaware Shows

Gadget Show - Class 1

Blue	Antony Buzas	PA
Red	Joe Hansen	NJ
White	Gary Boehnke	NJ

Class 2

Blue	Gary Boehnke	NJ
Red	Loren Saddler	PA
White	John Iannuzzi	MD
Yellow	James LaGrant	MA
Green	Jim Baker	MD

Arts and Crafts Show -

Class 1

Blue	Pat Dougherty	PA
Red	Jed Schane	VA
White	John Burgess	VA
Yellow	Carol Chiros	MA
Green	James LaGrant	MA
Pink	Shirley Hughes	TN

Class 2

Blue	Mike Melon	MA
Red	Ray Churchill	NY
White	Sandy Congdon	MA
Yellow	Joan Borghi	NY
Green	Irene Iannuzzi	MD
Pink	Shirley Hughes	TN

Class 3

Blue	Joseph Mulligan	NY
Red	Ray Churchill	NY
White	Mike Mellon	MA

Class 4

Blue	Elva Proctor	MA
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Yellow	Joe Blodgett	NY
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Pink	Shirley Hughes	TN

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Making Mead (Honey Wine)

Mead is the oldest alcoholic beverage known to man. The text reviews this lengthy history and gives specific details on making honey wine at home. \$9.95 (Softcover)

Honey Bee Brood Diseases

A 32-page booklet written by the Danish honey-bee expert Henrik Hansen. Morse edited this English Edition. The 25 color plates describe the common problems clearly; three pictures of varroa disease that threaten to invade North America are included. \$9.95 (Softcover)

A Year in the Beeyard

The 'year' book guides one through the beekeeping year on a month-by-month basis. The 12 chapter book is a result of 45 years of experience keeping bees in the Hudson Valley and Finger Lake regions of New York and in Florida. The first chapters discuss how to start in beekeeping, needed (and useless) equipment and sources of information. \$14.95 (Hardcover)

Beeswax: Production, Harvesting, Processing and Products

Beeswax was co-authored with Dr. William L. Coggshall, namesake of his grandfather who at one time owned 4,000 colonies of honey bees, more than any other man in the world at the time. Bill's father spent his life as a commercial beekeeper. Dr. Coggshall has been a commercial beekeeper, college professor and owned and operated Wax Workers who made foundation, candles and processed beeswax for industry. \$9.95 (Softcover) or \$14.95 (Hardcover)

The Complete Guide to Beekeeping

The "Guide" is a book for beginner beekeepers. It was revised and updated in 1986. It discusses how to start in beekeeping, the cycles of the year, and such issues as diseases, pollination and harvesting honey. \$8.95 (softcover)

The Illustrated Encyclopedia of Beekeeping

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The Golden Throng

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